

8. Abstract

2.1 The present invention is directed to an economical approach for compensating for the dispersion of optical signals having different wavelengths.

2.2. In accordance with the present invention, photonic crystals (K1-Kn) are positioned on a common optical waveguide (2). In this context, each photonic crystal (K1-Kn) is tuned to reflect or deflect the signals of one wavelength and to transmit the signals of other wavelengths, unattenuated. The specific arrangement of the photonic crystals (K1-Kn) on the waveguide (2) and the specific arrangement of the deflecting elements in the photonic crystal are defined, in the process, as a function of the dispersion to be compensated for between the individual wavelengths.

2.3. The approach of the present invention makes it possible to assemble permanently set or controllable photonic dispersion compensators of a high quality, which are approximately 1000 times shorter than conventional diffraction gratings.

3.0. Figure 1